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CONNECTION HOUSING FOR INDIVIDUAL FILTER THAT CAN BE INSTALLED
IN A SUPPLY LINE
[IN EINE VERSORGUNGSLEITUNG EINSETZBARES ANSCHLUßGEHÄUSE
FÜR EINZELFILTER]

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1. Connection housing for individual filter that can be installed in a supply line, with one check valve each for the inlet and outlet of the filter characterized by a third check valve (11) integrated in the connection housing (1) and a direct pass-through channel (15) between the line connections (2, 3) of the connection housing (1), which can be closed by the third check valve (11).

2. Connection housing according to Claim 1, characterized in that the axes of the line connections (2, 3) and the check valve stems (17) lie on a common plane.

* Numbers in the margin indicate pagination in the foreign text.

The invention relates to a connection housing for an individual filter that can be installed in a supply line with one check valve each for the filter inlet and outlet.

If only one filter is installed in a supply line, e.g. water lines, when the filter is removed or maintenance is carried out, e.g. replacement of the filter cartridges, the supply lines before and after the filter are blocked so that the supply is interrupted for the duration of the filter maintenance. In systems with several filters that operate in parallel, it is already possible to remove one filter while the rest of the filters remain in function.

However, recently the demand has been made, even with individual filters, to be able to remove these individual filters for maintenance or replacement purposes without interrupting the supply. To date, the remedy that was used was that the filter was moved into a bypass to the supply line. However, for this purpose, no less than two T-pieces, two L-pieces and three check valves are needed as individual fittings, as well as the corresponding pipe sections. Therefore, such an arrangement is very complex with regard to the material and labor costs. Thus a great deal of time and space is required for the installation of such a bypass arrangement and also the number of potential leakage points is increased due to the many threaded connections and/or soldered or welded locations.

The invention is based on the object of producing a connection /3 housing for individual filters of a supply line that does not take up any additional space, is easy to install and above all, allows a removal

of the individual filter without interrupting the supply.

This object is achieved according to the invention in a connection housing of the general type named at the beginning by a third check valve integrated in the connection housing and a direct pass-through channel between the line connections of the connection housing, which can be closed by the third check valve.

In this process, the axes of line connections and the check valve stems can lie in a common plane.

With just two threaded connections, the connection housing according to the invention can be installed quickly and in a space-saving manner in a supply line. It even allows the operation of the supply line without filters during the construction time when a filtering of the supply medium, e.g. water, is not yet necessary or if the supply line will be tested for seal integrity by pressing on it.

The drawing shows a longitudinal section through a filter with an exemplary embodiment of a connection housing according to the invention.

The connection housing 1 shown has two line connections 2, 3 and an inlet connection 4 and an outlet connection 5 for a filter 6 with filter housing 7, filter cup 8 and filter cartridge 9.

The medium to be filtered flows through the line connection 2 and the inlet connection 4 into the filter 6 and leaves it by way of the outlet connection 5 in order to go back, filtered, into the supply line that is not shown at the line connection 3. The flow direction of the /4 medium when filter 6 is in operation is indicated by the solid arrow.

The connection housing 1 also has three integrated check valves 10,

11, 12, by which, when filter 6 is ready to function, the check valve 10 responsible for the supply 13 of filter 6 and the check valve 12 responsible for the outlet 14 of filter 6 are opened, while the third additional check valve 11, which lies in a direct pass-through channel 15 between the line connections 2, 3 of the connection housing 1 is closed as shown.

A compact construction method of the connection housing results not least because of the fact that the axes of the line connections 2, 3 and of the valve stems 17 lie in a common plane.

To remove or open the filter 6, in order e.g. to replace the filter cartridge 9, the check valve 11 is opened in order to open the direct pass-through channel 15 and the check valves 10 and 12 are closed so the filter 6 is without pressure and can be emptied by way of an emptying screw 16. The filter cup 8 can now be screwed off or taken off in another way, depending on the type of filter construction. The medium in the supply line can continue to flow, as indicated by dotted arrows in the pass-through channel 15, but is unfiltered for the few minutes that are needed for maintenance of the filter 6, which is insignificant for this short period of time.

After the end of the filter maintenance, the procedure can be reversed. Check valves 10, 12 will be opened again and the center check valve will be closed.

